

**Notice of Allowability**

Application No.

09/751,640

Examiner

Ronald D Hartman Jr.

Applicant(s)

TANG, K. CLIVE

Art Unit

2121

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the amendment filed on 10/18/2004.
2. ☒ The allowed claim(s) is/are 2 and 4-5 (renumbered as claims 1-3).
3. ☒ The drawings filed on 23 July 2001 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All   b) ☐ Some\*   c) ☐ None   of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  6. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08),  
Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_.

### **DETAILED ACTION**

1. Claims 2 and 4-5 are presented for further examination.

### **EXAMINER'S AMENDMENT**

2. Authorization for this examiner's amendment was given in a telephone interview with Steven A. Shaw on November 9, 2004.

The application has been amended as follows:

In the claims:

Claim 2, line 2, delete the first instance of "an" and change "methods" to "method". Also, in line 10, delete "(TP)". Also,

Claim 4, line 2, change "adapted" to "optimized" to be consistent with the claim language of claim 2.

Claim 5, line 4, after "determining", insert a comma. Also, line 4 change "automation" to "automaton". Also, after "thresholds" in line 5, insert ", a plurality of switching thresholds;". Also, line 4, "the output" should be changed to "an output" and in line 8, delete "and", and in line 10, delete the first instance of "an" and change "suing" to "using".

### ***Allowable Subject Matter***

3. Claims 2 and 4-5 are allowed.

As per claims 2 and 4-5, specifically independent claims 2 and 5, the prior art of record fails to teach or adequately suggest a self-learning stochastic method for modulation selection for a system (transceiver) wherein a modulation method (technique or scheme) is chosen based on an dynamically adaptive modulation selection that utilizes a self learning algorithm, in combination with the other claimed features and or features as claimed by the claimed invention.

The closest available art is issued to Needham et al., U.S. Patent 5,764,699, Yoshida, U.S. Patent No. 6,359,934 and Yoshida, U.S. Patent No. 6,452,964.

All of the aforementioned references teach adaptive modulation techniques, and Needham et al specifically teaches the use of a modulation selector feature. However, none of the aforementioned references teaches the use of a self-learning stochastic method for modulation selection, in other words, a self-learning algorithm. The aforementioned systems simply teach selecting a modulation technique (method or scheme) based on the channel quality and therefore do not offer the disclosed capabilities of the instant invention by providing for a modulation selection method that maximizes throughput of data.

#### **Conclusion**

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ronald D Hartman Jr. whose telephone number is (571) 272 - 3684. The examiner can normally be reached on Mon. - Fri., 11:30 am - 8:00 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anthony Knight can be reached at (571) 272 - 3687. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Anthony Knight  
Supervisory Patent Examiner  
Group 3600

Ronald D Hartman Jr.  
Examiner  
Art Unit 2121